

Idaho Education Network (IEN) - Benefits to Districts

What is the Idaho Education Network (IEN)?

The IEN is a private, high-speed broadband network, providing school districts the necessary elements for reliable and scalable network access including the hardware infrastructure, software, 24x7 technical monitoring and support, and internet. Idaho students have increased educational opportunities because of the IEN, including students in our most rural districts who now have access to the same opportunities as the students in our most urban districts.

The IEN provides every high school in Idaho with access to high-speed broadband connectivity as well as videoconferencing equipment. Leveraging the power of a statewide network relieves school districts of the financial and management burden of purchasing equipment and network bandwidth and of operating individual video conference systems. The managed network provides the quality and consistent service required for interactive delivery of online content which would not be possible in many of our rural communities that, prior to the IEN, had limited access to low quality, inconsistent connections. As part of the active monitoring and support, the IEN provides a help desk to assist school technicians and teachers with network or video-teleconferencing issues.

Realizing the potential that modern technology brings to education, and equalizing opportunities to education across the State, is what the IEN does.

How is your district putting the IEN to work for your students and citizens?

Because of your districts' participation in the IEN, students across Idaho have access to dual credit college courses earning 393 college credits in Fall 2009, with that number growing to 2,331 college credits earned in Fall 2013. Credits earned over the IEN are steeply discounted by Idaho's colleges and universities, saving Idaho families over \$1.59 million since the inception of the network.

While thousands of your high school students have completed college credit classes, thousands more are being inspired by education enriching events, such as live video interaction with divers off the Great Barrier Reef, with doctors at the St. Louis University School of Medicine and museum curators across the world. In December, Sugar Salem High School was one of five schools across the U.S. to participate in a live interactive videoconference with former President Jimmy Carter.

Many of your communities have also expanded the use the IEN beyond student education and are now receiving professional development and workforce training over the network.

More about the IEN.

The IEN architecture is designed to anticipate increased adoption and growth. Prior to the IEN, schools purchased about 1,600 Mbps of total bandwidth. In December 2011, IEN was purchasing aggregate bandwidth of nearly 2,700 Mbps. Today, for approximately the same cost, the IEN is purchasing 5,300 Mbps – a 40% growth rate per year. Budgets aren't growing that fast but the IEN is able to leverage the aggregate purchasing power and statewide perspective to help districts keep pace with technology without significant budget impacts. **The IEN devotes just over \$10 million annually to ensure high-speed broadband connectivity, VTC equipment and 24x7 services are available to every high school across the state at no cost to the districts.**

To learn more about how your district is using the IEN, contact the Department of Administration at (208) 332-1832 or visit the website at www.ien.idaho.gov.

Idaho Education Network (IEN): How Does Idaho Benefit?

What value does the IEN bring to students and families?

"If it wasn't for the IEN, [my son] didn't have any opportunities in Weiser. He was going to stagnate as far as his education was concerned..." Shelly Eliason, parent at Weiser High School.

- ✓ Provided over 15,500 dual credits, saving Idaho families about \$1.59 million in future tuition.ⁱ
 - A study predicts 68% of all Idaho jobs will require formal education after high school by 2020.
- ✓ Students have earned job-ready professional certifications in technology and health care.
- ✓ Students have been inspired to pursue careers in medicine, software development, and biology.
- ✓ IEN courses have helped prepare students for admission into MIT, Cal Poly and Carnegie Mellon.
- ✓ Extends hard-to-find courses, e.g. Holocaust Literature, five foreign languages, physics, advanced math.
- ✓ Students participated in unique opportunities interacting with history makers such as President Jimmy Carter, former First Lady Barbara Bush, and international student conferences.

What value does the IEN bring to districts?

"The implementation of the IEN in Idaho schools has been the best educational tool that Idaho has adopted in the past twenty five years." Jared Jenks, Principal, Sugar-Salem High School, Sugar-Salem School District.

- ✓ Fiber optic connections empower districts to implement more technology. The IEN has increased fiber connections from 17 (pre-IEN) to 168 districts and charter schools or about 78% of total IEN connections.
 - Nationwide, less than 20% of educators say their school's internet meets their teaching needs.ⁱⁱ
- ✓ In Idaho, 67% of high schools have less than 600 students; that's the minimum number of students that studies show are necessary "to offer a full and solid curriculum."ⁱⁱⁱ Courses over the IEN ease this limitation on smaller districts.
- ✓ Connecting to a private managed network solves problems for districts and enhances student experiences. States including Utah, New York, Texas, and North Carolina all use private managed networks.
- ✓ Emphasis on modern technology enables the IEN to purchase more bandwidth for districts at lower costs.

What value does the IEN bring to communities?

"I am so excited to now understand the IEN and all the wonderful things it has to offer... the community of Buhl is grateful!" Sarah Wilkin, District Psychologist, Buhl School District.

- ✓ Enhanced public safety: annual training offered over the IEN for police, EMTs, and firefighters means safer communities at a lower cost by reducing travel and training time for these critical professions.
- ✓ Personal and professional growth: adults in rural communities access graduate programs through the IEN.
- ✓ Chambers of Commerce in towns like Weiser and St. Maries received economic development training.
- ✓ Brings broadband to communities: businesses have connection opportunities they did not have prior to the IEN, including choices in provider and increased available capacity.

What value does the IEN bring to the State?

"Idaho...kids are no longer at a disadvantage because of their geography." Adam Kirchner, Executive Editor, National Journal on Morning Joe, MSNBC

- ✓ Assists the Legislature in fulfilling its constitutional obligation "to establish and maintain a general, uniform and thorough system of public, free common schools."
- ✓ Promotes economic development by increasing student preparedness and speeding entry into workforce. Completing certifications mean work-ready students, while dual credit courses accelerate college completion.
- ✓ Operates at a fraction of the cost of other K-12 networks. In 2011, the IEN cost per unit of bandwidth was 44% of Utah's network cost per unit. At that time Utah had a staff of 120; the IEN has five.^{iv}

Idaho Education Network (IEN) v. Individual Internet Connections

What are the benefits of the IEN as a private, managed network?

- Equalizing education opportunities
- Combined purchasing power
- Internet2
- Video quality
- 24 x 7 monitoring
- Growth Management

Equalizing educational opportunities. No longer are students at a disadvantage because of their geography or lack of resources. The IEN equalizes educational opportunities to students in the most rural districts with those in our most urban districts by ensuring access to high-speed broadband and video conferencing capabilities. For the first time, students in Genesee and Weiser have opportunities to participate in the same dual credit and concurrent credit courses as their peers in Boise and Twin Falls.

Combined purchasing power. The IEN leverages purchasing power, buying video systems (over \$70,000 retail) for about \$30,000. In negotiating bandwidth pricing, we've focused on more expensive rural locations where costs can be exorbitant. In just one example, we brought the McCall connection down from over \$17,000 per month to around \$5,000 per month, while increasing bandwidth and capacity to expand. Independent district internet connections, as an alternative to IEN, resulted in extremely poor service to rural Idaho districts, failed to support important statewide education initiatives, and ultimately led Idaho to create the IEN in the first place.

Internet2. The IEN provides access to Internet2 for all Idaho IEN schools. Internet2 is a private education and research network run by a consortium of universities and research laboratories. Its content is unique and often sought by schools. For example, students in Sugar-Salem conversed with President Jimmy Carter, students in Weiser spoke with former First Lady Barbara Bush, and students in Centennial High School were selected to moderate an international conference of high school students presenting on their local communities. These are rare and meaningful opportunities. Only schools on private networks like the IEN, connected to Internet2, may participate in events like these.

Video quality. Interactive video over the IEN is of noticeably higher quality than over unmanaged networks. The superior quality was validated in an American Sign Language class, where the instructor (who cannot hear) was able to read lips over the video conference. This kind of reliable, consistent service is necessary to provide interactive education. In addition, there is a difference in quality and effective speed for all usage between a generic internet provider and Tier-1 providers used by the IEN.

Round the clock network monitoring. The IEN is monitored 24 hours a day, 7 days a week. Problems that arise are often dealt with before a school becomes aware there was an issue. With unmanaged internet, a school's first indication of a problem will often be experiencing trouble when they try to access the network. As part of the active monitoring and support, the IEN provides a help desk to assist teachers with network or video conferencing issues. This would be lost with individual connections.

Growth management. Prior to IEN, schools purchased about 1,600 Mbps of total bandwidth. In December 2011, the IEN was purchasing aggregate bandwidth of nearly 2,700 Mbps. Today, for approximately the same cost, the IEN is purchasing 5,300 Mbps – a 40% growth rate per year. Rapid growth is a major reason for a consolidated approach. Budgets aren't growing that fast. Districts don't have the purchasing power or statewide, strategic perspective to keep pace.

IEN Provisioned Bandwidth vs. Aggregate Utilization

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